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AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions, listings, of claims in the application:

Claim 1 (original): A control system for a decanter centrifuge, said decanter centrifuge when rotating having kinetic energy, said control system comprising:

(a) a variable frequency drive receiving power from an AC source and connected to a main drive motor, said main drive motor for rotating a bowl of said decanter centrifuge;

(b) a variable frequency drive connected to a back drive motor, said back drive motor for rotating a conveyor of said decanter centrifuge;

(c) a common DC bus connected to said variable frequency drive connected to said main drive motor and to said variable frequency drive connected to said back drive motor;

(d) means connected to said common DC bus and a stand for providing lubrication to said decanter centrifuge for controlling said lubrication stand;

said decanter centrifuge kinetic energy providing through said variable frequency drive connected to said main drive motor power for said DC bus in the absence of power from said AC source.

Claim 2 (original): The control system of claim 1 further comprising:

a circuit breaker connected between said main motor variable frequency drive and said main drive motor;

a circuit breaker connected between said back drive motor variable frequency drive and said back drive motor;

said means for controlling said lubrication stand providing a DC voltage have a constant predetermined amplitude;

each of said circuit breakers maintained closed by said constant predetermined amplitude DC voltage and reset by an AC voltage derived from said AC source.

Claim 3 (original): The control system of claim 1 wherein

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said means connected to said common DC bus and said lubrication stand for controlling said lubrication stand further comprises:
 a power supply connected to said DC bus for providing at its output a DC voltage having a constant amplitude;
 a variable frequency drive connected to said DC bus and said lubrication stand.

Claim 4 (previously presented): The control system of claim 3 wherein said lubrication stand comprises a lube oil pump and said variable frequency drive connected to said lubrication stand is connected to said lube oil pump.

Claim 5 (original): A control system for a decanter centrifuge, said decanter centrifuge when rotating having kinetic energy, said control system comprising:

(a) a variable frequency drive receiving power from an AC source and connected to a main drive motor, said main drive motor for rotating a bowl of said decanter centrifuge;

(b) a variable frequency drive connected to a back drive motor, said back drive motor for rotating a conveyor of decanter centrifuge;

(c) a common DC bus connected to said variable frequency drive connected to said main drive motor and to said variable frequency drive connected to said back drive motor;

(d) means connected to said common DC bus for providing lubrication to said decanter centrifuge;

said decanter centrifuge kinetic energy providing through said variable frequency drive connected to said main drive motor power for said DC bus in the absence of power from said AC source.

Claim 6 (original): The control system of claim 5 further comprising:

a circuit breaker connected between said main motor variable frequency drive and said main drive motor;

a circuit breaker connected between said back drive motor variable frequency drive and said back drive motor;

said means connected to said common DC bus for providing

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lubrication to said decanter centrifuge providing a DC voltage have a constant predetermined amplitude;

each of said circuit breakers maintained closed by said constant predetermined amplitude DC voltage and reset by an AC voltage derived from said AC source.

Claim 7 (original): In combination,

a decanter centrifuge comprising a bowl and a conveyor, said decanter centrifuge when rotating having kinetic energy, a control system for said decanter centrifuge comprising:

(a) a variable frequency drive receiving power from an AC source and connected to a main drive motor, said main drive motor for rotating said bowl of said decanter centrifuge;

(b) a variable frequency drive connected to a back drive motor, said back drive motor for rotating said conveyor of said decanter centrifuge;

(c) a common DC bus connected to said variable frequency drive connected to said main drive motor and to said variable frequency drive connected to said back drive motor; and

(d) means connected to said common DC bus and a stand for providing lubrication to said decanter centrifuge for controlling said lubrication stand;

said decanter centrifuge kinetic energy providing through said variable frequency drive connected to said main drive motor power for said DC bus in the absence of power from said AC source.

Claim 8 (original): In combination,

a decanter centrifuge comprising a bowl and a conveyor, said decanter centrifuge when rotating having kinetic energy, a control system for said decanter centrifuge comprising:

(a) a variable frequency drive receiving power from an AC source and connected to a main drive motor, said main drive motor for rotating said bowl of said decanter centrifuge;

(b) a variable frequency drive connected to a back drive motor, said back drive motor for rotating said conveyor of said decanter centrifuge;

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(c) a common DC bus connected to said variable frequency drive connected to said main drive motor and to said variable frequency drive connected to said back drive motor; and

(d) means connected to said common DC bus for providing lubrication to said decanter centrifuge;

said decanter centrifuge kinetic energy providing through said variable frequency drive connected to said main drive motor power for said DC bus in the absence of power from said AC source.

Claim 9 (canceled)

Claim 10 (previously presented): The control system of claim 5 further comprising a power supply connected to said DC bus for providing at its output a DC voltage having a constant amplitude.

Claim 11 (previously presented): The control system of claim 10 wherein said means connected to said common DC bus for providing lubrication to said decanter centrifuge comprises a lubrication stand and a variable frequency drive connected to said lubrication stand and said DC bus.

Claim 12 (previously presented): The control system of claim 11 wherein said lubrication stand comprises a lube oil pump and said variable frequency drive connected to said lubrication stand is connected to said lube oil pump.

Claim 13 (previously presented): The combination of claim 7 wherein said control system for said decanter centrifuge further comprises:

a circuit breaker connected between said main motor variable frequency drive and said main drive motor;

a circuit breaker connected between said back drive motor variable frequency drive and said back drive motor;

said means for controlling said lubrication stand providing a DC voltage have a constant predetermined amplitude;

each of said circuit breakers maintained closed by said constant predetermined amplitude DC voltage and reset by an AC voltage derived from said AC source.

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Claim 14 (previously presented): The combination of claim 7 wherein said control system for said decanter centrifuge further comprises a power supply connected to said DC bus for providing at its output a DC voltage having a constant amplitude.

Claim 15 (previously presented): The combination of claim 8 wherein said control system for said decanter centrifuge further comprises:

a circuit breaker connected between said main motor variable frequency drive and said main drive motor;

a circuit breaker connected between said back drive motor variable frequency drive and said back drive motor;

said means connected to said common DC bus for providing lubrication to said decanter centrifuge providing a DC voltage have a constant predetermined amplitude;

each of said circuit breakers maintained closed by said constant predetermined amplitude DC voltage and reset by an AC voltage derived from said AC source.

Claim 16 (previously presented): The combination of claim 8 wherein said control system for said decanter centrifuge further comprises a power supply connected to said DC bus for providing at its output a DC voltage having a constant amplitude.

Claims 17-18 (canceled)